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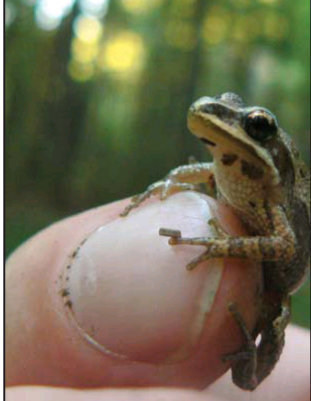
Editor JIM HENDRY jim.hendry@sunmedia.ca 745-4641 ext. 242

LIVING

Hazard of having in March

Natural world is out of normal cycle and potential havoc is hard to predict

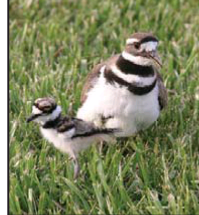
It's hard not to enjoy the extraordinarily warm weather we've been having – today's forecast is for a high of 26 C! But, although I hate to rain on anyone's parade, when people comment on how great the warmth and the sunshine are, I can't help but feel ambivalent at best. The extended heat wave that we've been experiencing is completely unheard of this early in the year. From my perspective as a naturalist, I can't help but be concerned about the potential havoc that having May in March could cause. Warm weather doesn't just affect people; it also affects all aspects of our flora and fauna. I look around the garden and tulip leaves are already coming up, crocuses and snowdrops are in bloom, silver maples are in flower and robins are busy building nests. Whether the warm weather is due to having a negative effect on the natural world is anyone's guess. We are clearly into uncharted territory and the potential impacts are hard to predict.



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KARL EGRESSY Special to The Examiner

Spring is not only early, it's been as warm as summer and that will cause many species to breed and lay eggs earlier than usual, with potentially harmful results. Among those that could be out of sync with their natural cycles are the (clockwise from top left) the western chorus frog, black-legged tick, killdeer (with young) and walleye, seen at spawning ground.



Drew Monkman
OUR CHANGING SEASONS

The extent to which spring events are happening earlier than usual is unprecedented. In all of the years I've been keeping track of "seasonal firsts," I've never heard any species of frog call before March 30. The average for first calling is mid-April. This year, however, chorus frogs were already trilling on March 16 and spring peepers on the 17th. The March 17 date is four weeks earlier than the long-term average (25 years) first date of calling, but if you take the most recent 13 years (the period when records of first calling have been more consistently kept) then 2012 is almost three weeks (20 days) earlier than the 13-year average. Quite remarkable!

CONCERN IF COLD RETURNS

This of course means that frogs will be laying their eggs earlier than usual and, should an extended period of abnormally cold weather occur, the eggs may be in jeopardy. Early breeding frogs do, however, provide their eggs with a measure of protection by anchoring the egg masses fairly deep in the water, thereby preventing them from floating free.

I have less concern for most of the migrant birds that are now back. Migrants return to the Kewarwas in two waves. The first wave usually arrives in mid-March and includes grackles, red-winged blackbirds and robins. These species turned up about a week earlier than usual this year with the first red-wings recorded on March 7. Early migrants are quite a hardy and adaptable bunch and should be able to survive, unless there is a severe, protracted cold spell.

The second major migratory wave, which reaches the Kewarwas around the first week of April, includes neotropical migrants such as hummingbirds, orioles, warblers and flycatchers. This wave arrives more or less on the same date every year, regardless of the vagaries of the weather. Among these are many of our rarest birds. There is a scenario for concern for this group, both for this spring and for future years as climate change continues unabated. It involves insect numbers. If the warm weather continues on its present path, trees and other plants will flower and

produce leaves several weeks earlier than usual. Many of the insects on which songbirds depend for food – caterpillars, for example – have evolved to emerge at the same time as the flowers and leaves in order to take advantage of the bounty of food. Tropical migrants, in turn, have evolved to arrive back on the nesting grounds when insect numbers peak. It is therefore possible that insect populations may already be past their peak levels when the tropical migrants return. The birds have no way of knowing that the insects are peaking earlier than usual! If such is the case, the birds may have trouble finding enough caterpillars and other insects to raise as many young as they normally would.

SHORT FOOD IN HOLLAND

This scenario is already occurring in Holland. Researchers at the University of Groningen in the Netherlands have found that all of the insect-eating migratory birds that winter in Africa and breed in Dutch woodlands have suffered steady population declines since 1984. Nightingales and wood warblers have seen the most dramatic declines. Woodland birds have evolved to lay their eggs so they will hatch when there are lots of caterpillars available for their young to eat. But, due to climate

change, spring is starting progressively earlier in the Netherlands. On average, trees are in leaf two weeks earlier than 25 years ago. This means that caterpillars that eat the young leaves are also appearing two weeks earlier. The researchers believe that African migrants have not been able to adapt their spring migration arrival time sufficiently to take advantage of the earlier appearance of the caterpillars. In other words, by the time they're fooded, there is no longer sufficient food available for their young, hence the declines in population. Marsh birds that winter in Africa, however, have not declined. This is because insects remain abundant in marshes all spring and summer long. Resident birds in Dutch woods do not show a decline, either.

EARLY WALLEYE SPAWNING

Warm weather and earlier than usual ice-out could also spell trouble for fish. Walleye, for example, may end up spawning earlier than usual. Spawning is dependent on water temperature and our lake and river waters are now warming very rapidly. However, if there is an extended cold snap following spawning, this could kill the eggs or fry. Fish can also be affected by an overabundance of algae. Early ice-out means that the growing season for algae is extended.

More algal growth means more algae to eventually die, sink to the bottom, decompose and use up oxygen that fish depend upon. The end result can be fish die-offs.

TOO MANY TICKS

Potential dark clouds loom on the horizon when it comes to insects, too. On March 7, Ontario environmental commissioner Gord Miller released his report "Ready for Change? An assessment of Ontario's climate change adaptation strategy." According to the report, a warming climate will bring a host of problems related to insect pests. This includes the spread of Lyme disease from increased black-legged tick numbers, West Nile virus because of mosquitoes and possibly even malaria. Miller contends that Ontario is not ready for the threats posed by climate change and that "we have an infrastructure built for a climate we no longer have." Lyme disease never used to occur in Ontario but now you can contract it from Windsor across to Cornwall. There is also a scenario this spring in which common insects such as caterpillars will become active much earlier than usual in order to feed on the emerging leaves and flowers. Should a heavy frost or cold snap occur, the insects could either be killed directly or die because the leaves

and flowers on which they depend for food would be killed. This might mean far less food for any early arriving insect-eating birds such as swallows, Phoebes and killdeers.

So, is this latest occurrence of warm weather the result of climate change? It's nearly impossible to point at an isolated event and say this is a climate change event. Meteorologists are telling us that the Jet Stream – a "river of air" in the atmosphere and a division between warm and cold air – has been located much further north than usual in recent months, allowing warm air masses to continue moving up from the south. In fact, this warmer than usual temperature trend has been with us in Ontario since last July and seen every month since. We can talk about climate change, however, when we look at the long-term picture. Over the past three decades, a warmer than average winter has been twice as likely as a cool one. The risk of warm winters is increasing over time, but that doesn't mean that cold winters disappear, similar to the war that loaded dice change the probability of a particular roll but don't eliminate other possibilities.

LIVES ARE CHANGING

Climate change is quickly reshaping the way we live our lives. Simply being able to have a backyard rink – an iconic part of our Canadian identity – can no longer be depended upon. Extreme weather events, too, are becoming the norm, be they the wind storms last spring that uprooted hundreds of trees in the Peterborough area, the repeated floods (the latest of which was just last week) or the severe tornadoes that occurred in Indiana.

The risk of sounding like a broken record, I can't help but feel that the climate change message has not yet really gotten through. Nobody wants to blame a single event on climate change but when you step back and look at the last 15 years, most of what climate scientists have been predicting has come true – and in many cases worse than predicted. Climate change deniers have been very successful in influencing public opinion and creating the impression that the jury is still out on the causes and potential impacts of a changing climate. Nothing could be farther from the truth. The science is in and it is every bit as conclusive as the link between smoking and cancer.

People who deny climate change do so mainly because of their own ideological agenda. Climate change deniers also need to step outside a little more often and witness first hand the chaos that is beginning to occur.

Climate change is not a threat that is not designed to immediately react to threats that seem to manifest themselves in the distant future, such as some aspects of climate change. Distant risks do not offer the same alarms that immediate risks do – or immediate concerns such as economic development. However, for biologists, naturalists and an increasing number of hunters and anglers, climate change is not a threat of the distant future. It is a clear and present danger and one that causes a great deal of anguish and concern.

Drew Monkman is a Peterborough teacher and author of *Nature's Year in the Kewarwas*. He can be reached at dmonkman@copeco.ca. Visit his website at www.drewmonkman.com.

Karl Egressy is a Guelph nature photographer. To see more of his work and to contact him go to www.egressy.com.